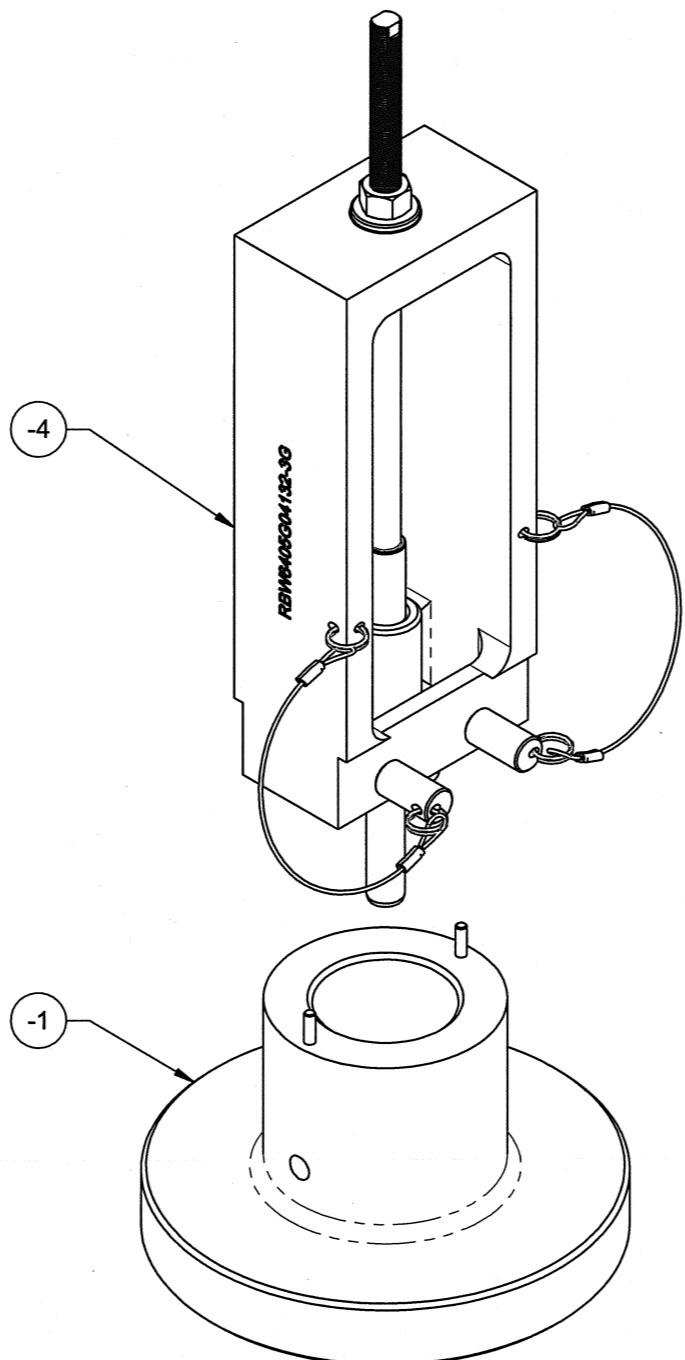


ITEM #	QTY	PART #	PART TITLE
-1	1	RBW6405G04132-3G-1	HUB ASSY
-4	1	RBW6405G04132-3G-4	FRAME ASSY



NOTES:

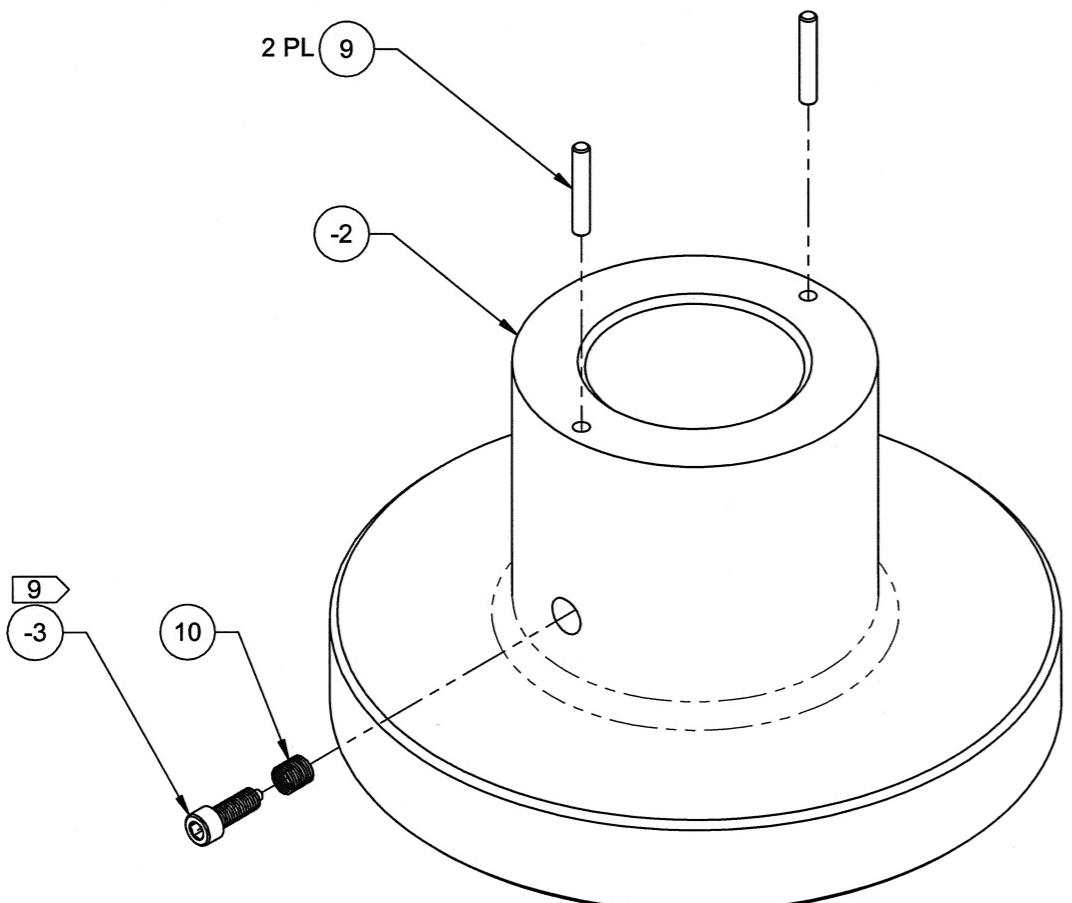
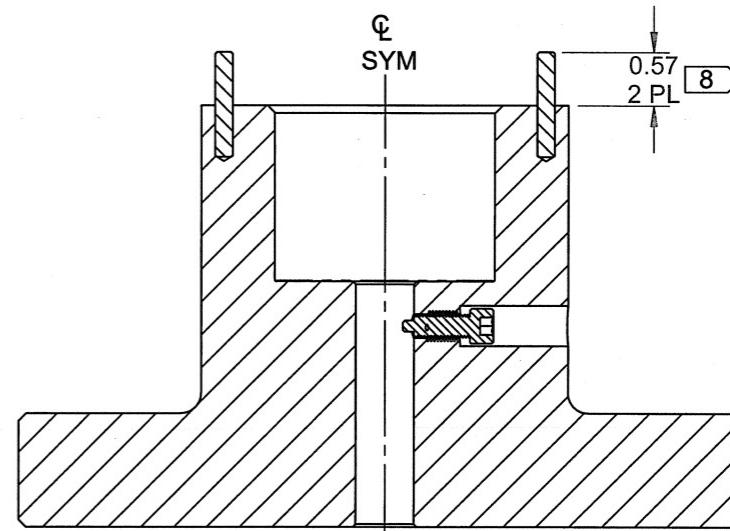
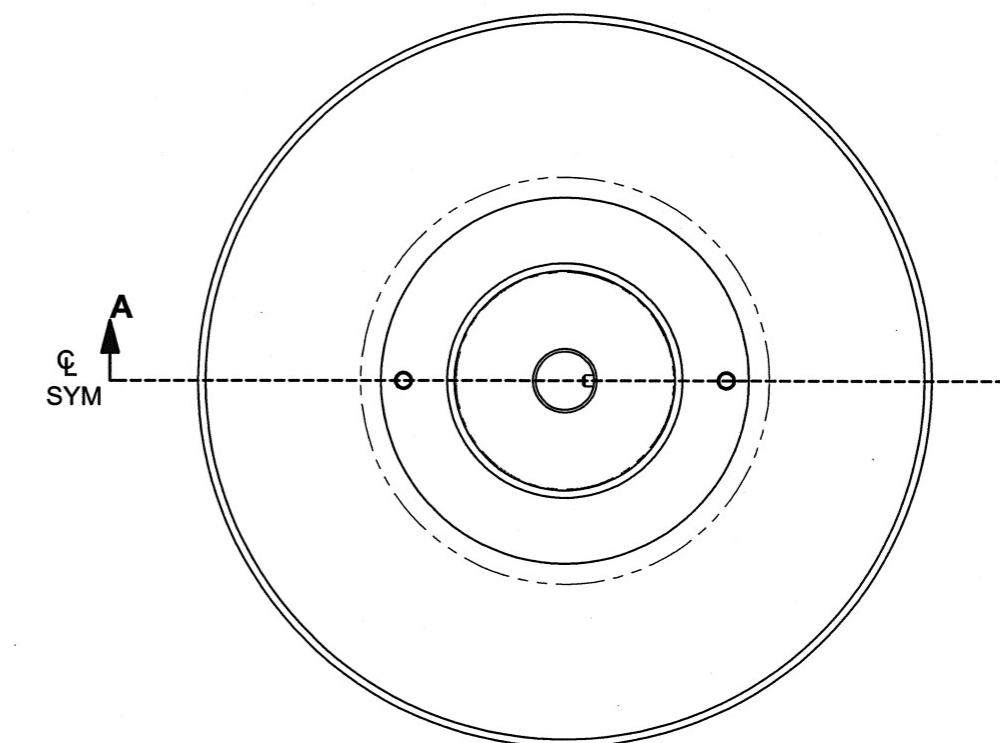
- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) THE TOOL ASSY MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG

SEE PDFs FOR OLDER REVs  
TEMPLATE UPDATED PER DART HBY STANDARDS  
ITEM -1 CHANGED FOR ITEM -2  
ITEM -1 ASSY ADDED  
ITEM -4 ASSY ADDED  
ITEM -13 CHANGED FOR ITEM -5  
ITEM -5 CHANGED FOR ITEM -6  
ITEM -9 CHANGED FOR ITEM -8  
ITEM -11 REMOVED AND REPLACED BY McMaster#91131A071  
ITEM -15 DOWEL PIN McMaster#98381A511 CHANGED FOR ITEM 9  
McMaster#97395A474  
ITEM 10 McMaster#91732A232 ADDED  
ITEM -3 MATERIAL WAS McMaster#92562A596 IS McMaster#92185A561,  
DIMENSION .121 CHANGED FOR 0.121 +0/-0.005, DIMENSION .722  
CHANGED FOR .72, R0.008 MAX ADDED  
ITEM -2 DIMENSION .1874/.1869 CHANGED FOR .1875/.1867,  
DIMENSION 2.362 CHANGED FOR 2.362 +0.005/-0, R0.015 MAX  
ADDED, .03 X 45° CMF 2 PL ADDED, DIMENSION .08 X 45° 2PL  
CHANGED FOR 3 PL.DIMENSION 3.454 B.C CHANGED FOR 3.454 +/-  
0.001, DIMENSION 1/4-28 UNF 2A CHANGED FOR 1/4"-28 HELICOIL,  
MATERIAL WAS 6061 CLEAR ANODIZE IS 6061/7075 RED ANODIZE  
ITEM -5 DIMENSION .514 CHANGED FOR .516, DIMENSION  
1.4170/1.4164 CHANGED FOR 1.1250/1.1242, R0.008 MAX ADDED,  
DIMENSION 0.02 X 45° CMF ADDED, ENGRAVING "MADE IN USA" AND  
S/N REMOVED, DIMENSION .16 CHANGED FOR 0.157, DIMENSION .30  
CHANGED FOR 0.295, DIMENSION 30° CHANGED FOR 30.4°,  
MATERIAL WAS 6061 CLEAR ANODIZE IS 6061/7075 RED ANODIZE  
ITEM -6 MATERIAL WAS 4140 Q&T/4142 Q&T CAD PLATE YELLOW IS  
4140(28-32Rc) BLACK OXIDE, DIMENSION .669 +/-0.002 CHANGED FOR  
0.660 +/-0.002, DIMENSION .502 CHANGED FOR 0.499, ENGRAVING  
REMOVED, DIMENSION .65 UNDERCUT CHANGED FOR MIN  
UNDERCUT, THREAD RELIEF ADDED, DIMENSION .228 CHANGED  
FOR 0.23, DIMENSION .193 CHANGED FOR 0.505 FROM THE  
TANGENT POINT OF THE SHAFT, 0.02 X 45° CMF 2 PL ADDED,  
CENTER DRILL ACCEPTABLE NOTE ADDED  
ITEM -7 MATERIAL 4140 Q&T/4142 Q&T CAD PLATE YELLOW  
CHANGED FOR 4140 (28-32 RC) ZINC PLATE TYPE 2 CLASS 2,  
DIMENSION .674 +/-0.002 CHANGED FOR 0.670, ALL CHAMFER  
REPLACED BY 0.08 X 45° CMF 4 PL  
ITEM -8 MATERIAL 4140 Q&T/4142 Q&T CAD PLATE YELLOW  
CHANGED FOR 4140 (28-32 RC) ZINC PLATE TYPE 2 CLASS 2,  
DIMENSION .21 CHANGED FOR 0.210, DIMENSION .16 CHANGED FOR  
0.157, DIMENSION 45° CHANGED FOR 45.0°, R0.03 ADDED, CENTER  
DRILL NOTE ADDED

REV.	DESCRIPTION	ECN #	BY
DESIGN	VM	<b>DART AEROSPACE LTD</b>	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VM	REV. E	
MFG. APPR.	RQ	TOOL PART #	
APPROVED	VIP	RBW6405G04132-3G	
		TITLE	
		SCALE	
		T/R DUPLEX BEARING INSTALLATION NTS	
DATE	3/1/2019	COPYRIGHT © 2019 BY DART AEROSPACE LTD	
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ITEM #	QTY	PART #	PART TITLE
-2	1	RBW6405G04132-3G-2	HUB
-3	1	RBW6405G04132-3G-3	SOCKET HEAD CAP SCREW MODIFIED
9	2	McMaster#97395A474 OR EQUIV	SS316 DOWEL PIN 3/16" DIA. x 1-1/8" LG.
10	1	McMaster#91732A232 OR EQUIV.	SS HELICAL INSERT 1/4"-28 X 3/8" LG.

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**RBW6405G04132-3G-1 HUB ASSY****SECTION A-A****NOTES:**

1) MATERIAL: N/A

2) HEAT TREAT: N/A

3) FINISH: N/A

4) TOLERANCES:  $X.X = \pm 0.1"$  /  $\pm 1^\circ$  $X.XX = \pm 0.01"$  /  $\pm 0.5^\circ$  $X.XXX = \pm 0.005"$  /  $\pm 0.1^\circ$  $X.XXXX = \pm 0.0005"$  /  $\pm 0.05^\circ$ PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES =  $\pm 0.005"$ 

5) UNITS: INCHES UNLESS OTHERWISE NOTED

6) IDENTIFICATION: N/A

7) ASSEMBLE AS SHOWN

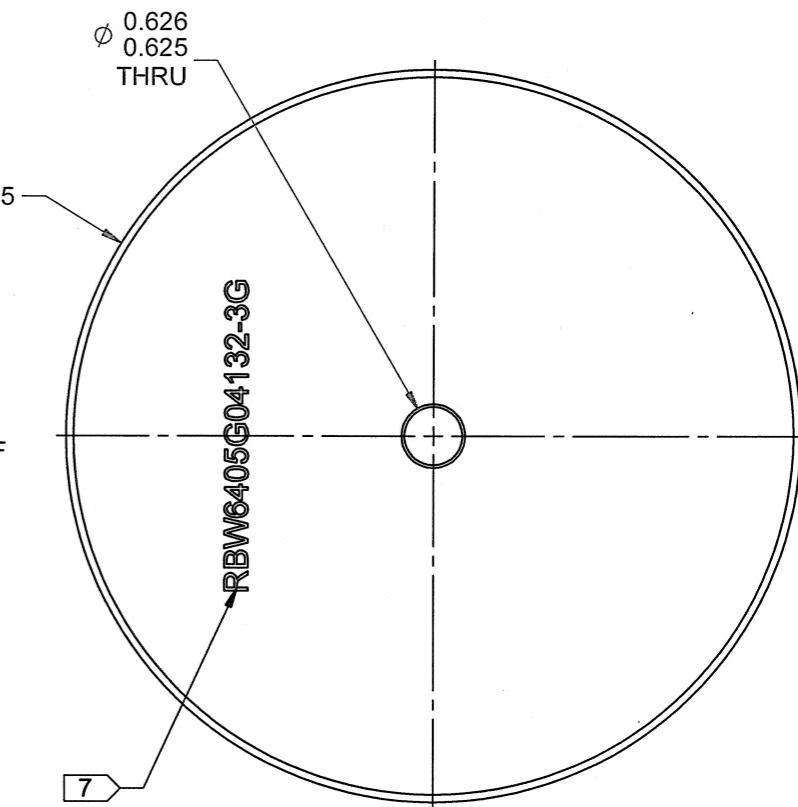
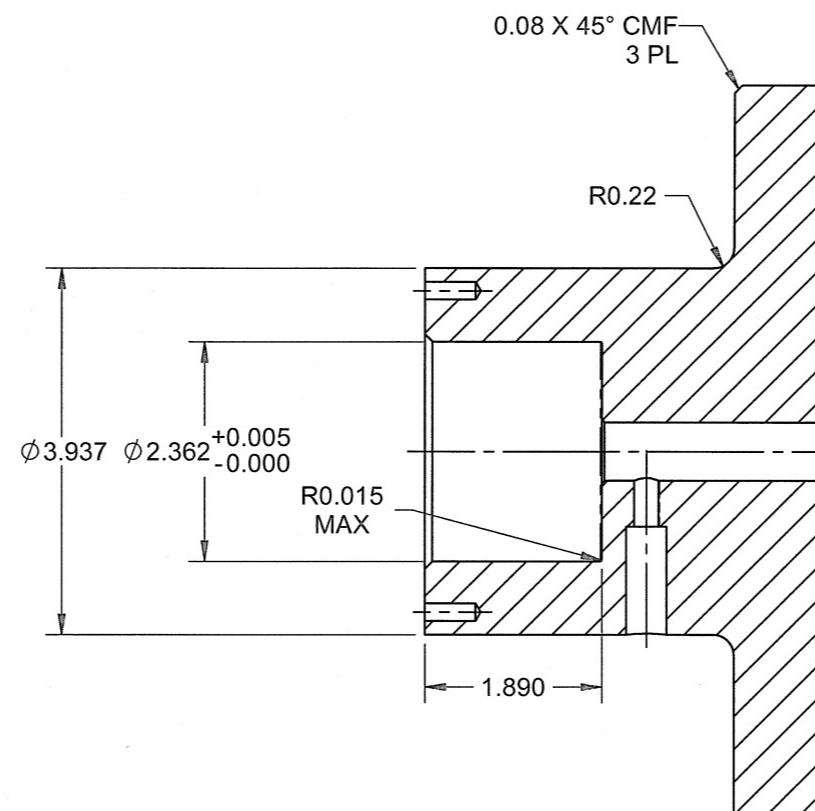
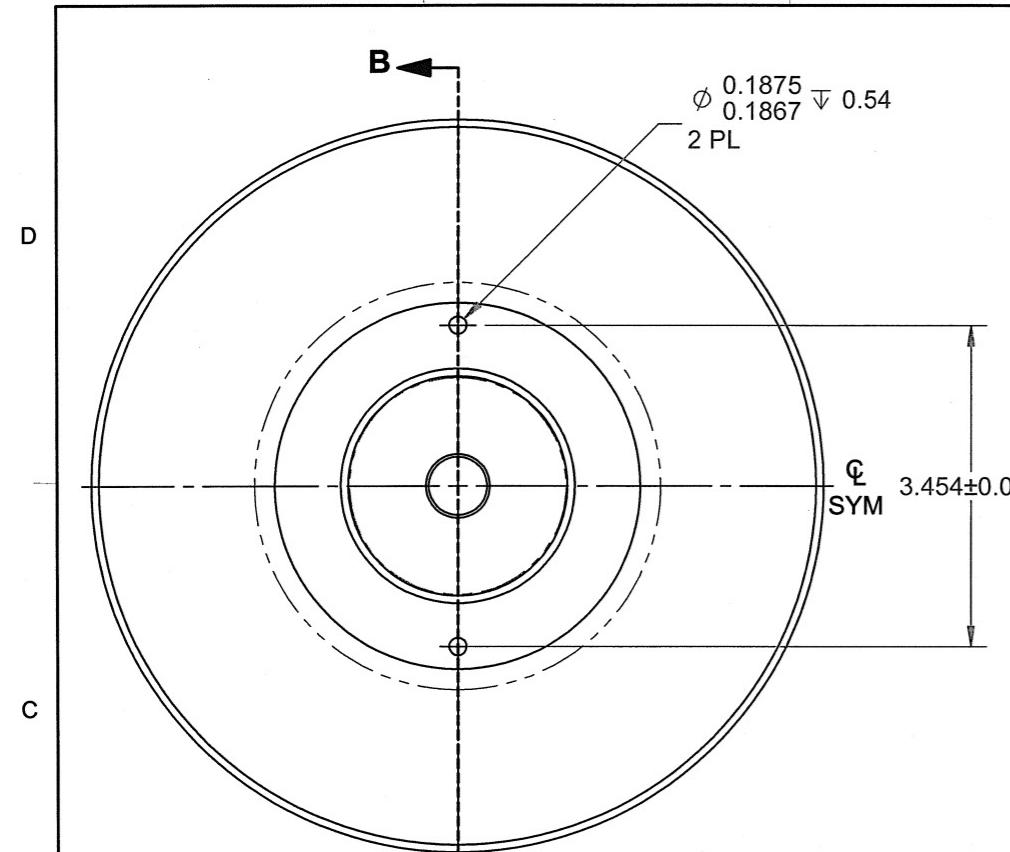
8) APPLY RETAINING COMPOUND LOCTITE 620 OR EQUIVALENT ON MATING SURFACES

THEN PRESS FIT ITEMS 9 WITH ITEM -2, AND REMOVE EXCESS

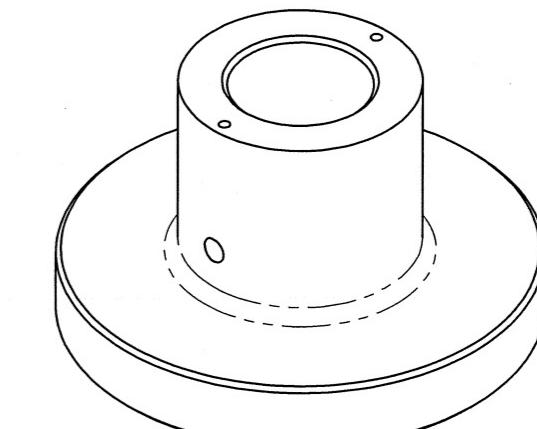
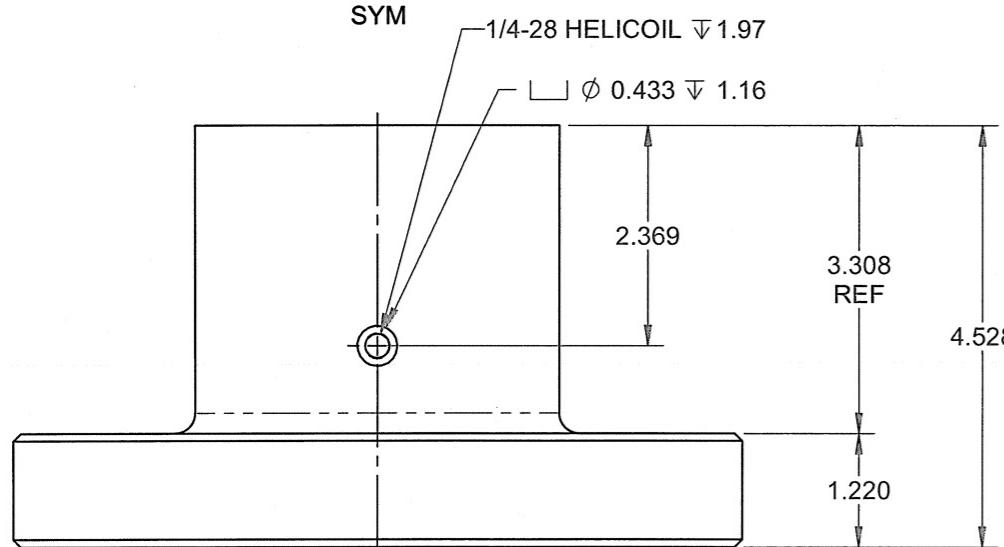
9) APPLY NICKEL ANTI-SEIZE LOCTITE LB 771 ON THREADS OF ITEM -3 THEN ASSEMBLE WITH ITEMS 10 AND -2, AND REMOVE EXCESS

DESIGN	VM	<b>DART AEROSPACE LTD</b>	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VM	REV. E	
MFG. APPR.	RQ	TOOL PART #	
APPROVED	VIT	RBW6405G04132-3G	
DATE 3/1/2019		TITLE T/R DUPLEX BEARING INSTALLATION NTS	
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**SECTION B-B**



**RBW6405G04132-3G-2 HUB**

**NOTES:**

- 1) MATERIAL: 6061-T6 / 7075-T6
- 2) HEAT TREAT: N/A
- 3) FINISH: ANODIZE RED PER MIL-A-8625 TYPE 2 CLASS 2
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: MACHINE ENGRAVE OR DOT MARK T/N AS SHOWN

DESIGN	VM	<b>DART AEROSPACE LTD</b>	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VM		
MFG. APPR.	RO		
APPROVED	VJ		
DATE 3/1/2019		TOOL PART #	REV. E
		RBW6405G04132-3G	SHEET 3 OF 9
TITLE		T/R DUPLEX BEARING INSTALLATION NTS	
SCALE		[Scale icon]	
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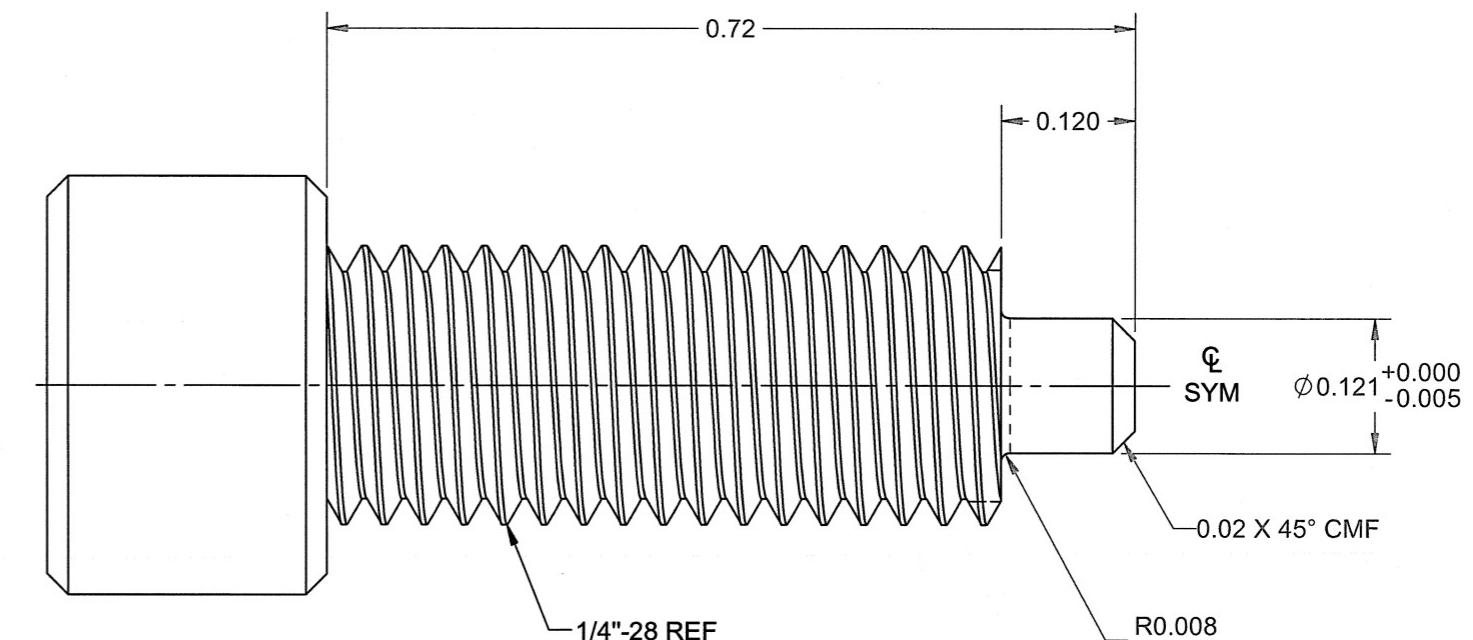
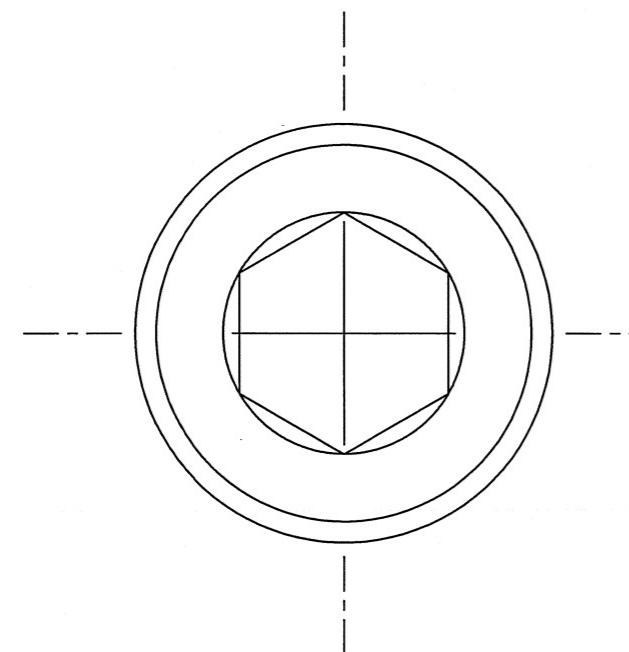
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### RBW6405G04132-3G-3 SOCKET HEAD CAP SCREW MODIFIED

#### NOTES:

- 1) MATERIAL: McMaster#92185A561 OR EQUIV (SS316 SOCKET HEAD SCREW 1/4"-28 x 3/4" LG.
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	VM	<b>DART AEROSPACE LTD</b>			
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA			
CHECKED	VM				
MFG. APPR.	RQ				
APPROVED	V/H				
DATE 3/1/2019		TOOL PART #	RBW6405G04132-3G		
		REV. E	SHEET 4 OF 9		
TITLE		T/R DUPLEX BEARING INSTALLATION NTS			
SCALE					
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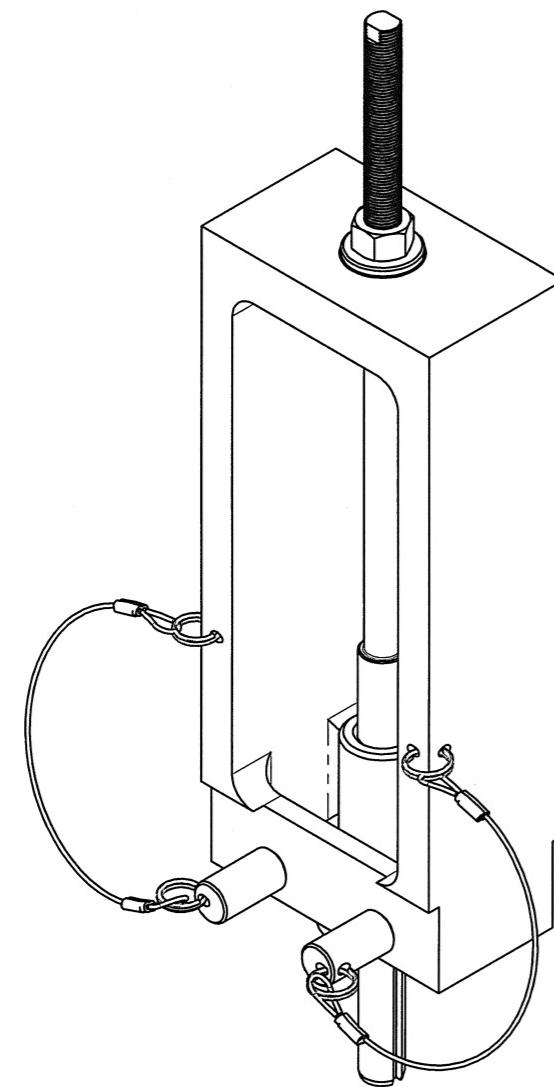
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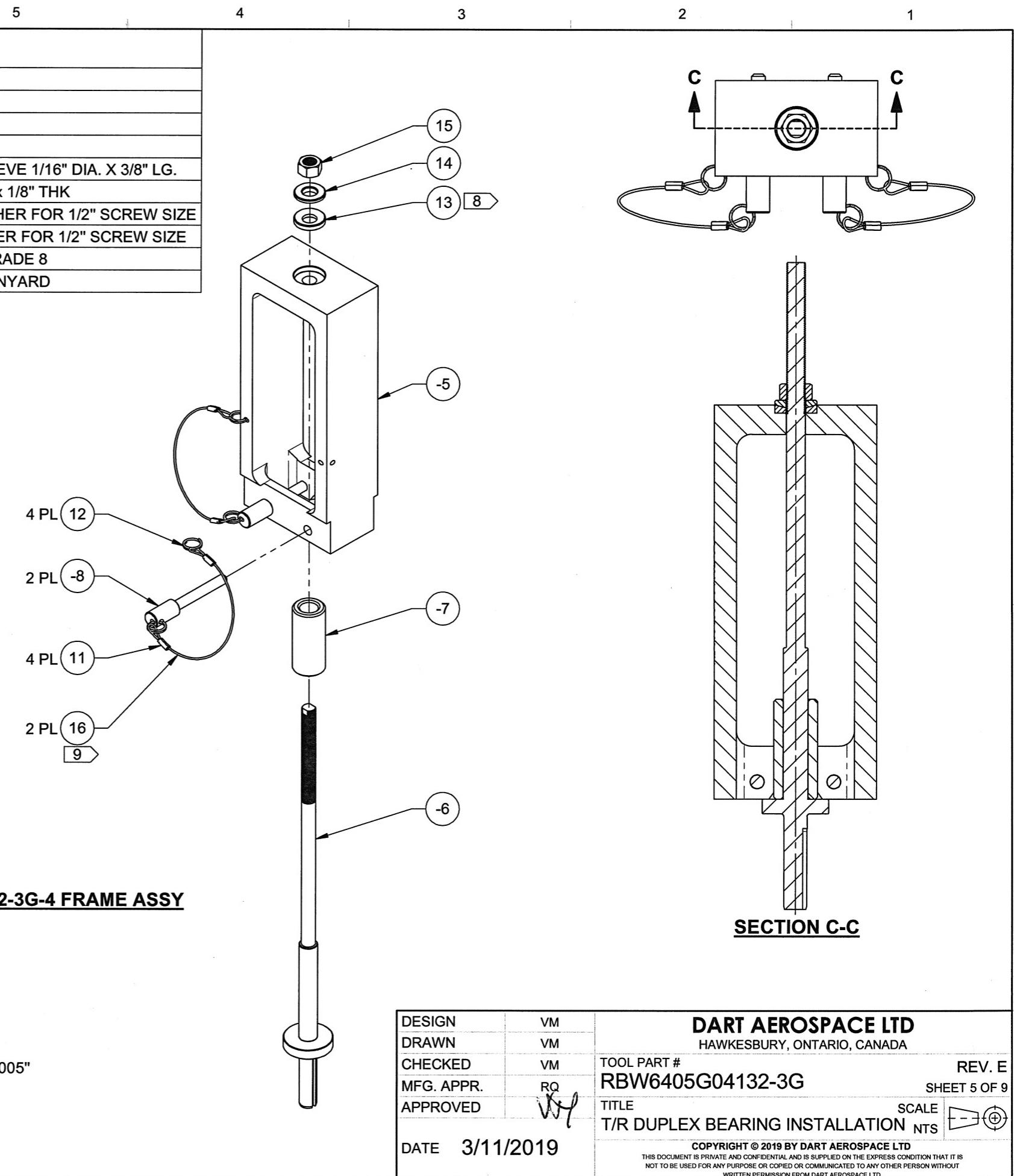
ITEM #	QTY	PART #	PART TITLE
-5	1	RBW6405G04132-3G-5	FRAME
-6	1	RBW6405G04132-3G-6	ROD
-7	1	RBW6405G04132-3G-7	SLIDER
-8	2	RBW6405G04132-3G-8	PIN
11	4	McMaster#3896T31 OR EQUIV.	ALUMINUM WIRE ROPE COMPRESSION SLEEVE 1/16" DIA. X 3/8" LG.
12	4	McMaster#90905A652 OR EQUIV	SS316 SPLIT RING 11/16" OD x 1/8" THK
13	1	McMaster#91131A072 OR EQUIV	STEEL BLACK OXIDE LEVELING FEMALE WASHER FOR 1/2" SCREW SIZE
14	1	McMaster#91131A071 OR EQUIV	STEEL BLACK OXIDE LEVELING MALE WASHER FOR 1/2" SCREW SIZE
15	1	McMaster#94191A550 OR EQUIV	STEEL HEX NUT 1/2"-20 GRADE 8
16	AR	CL-2-C	STEEL NYLON COATED LANYARD

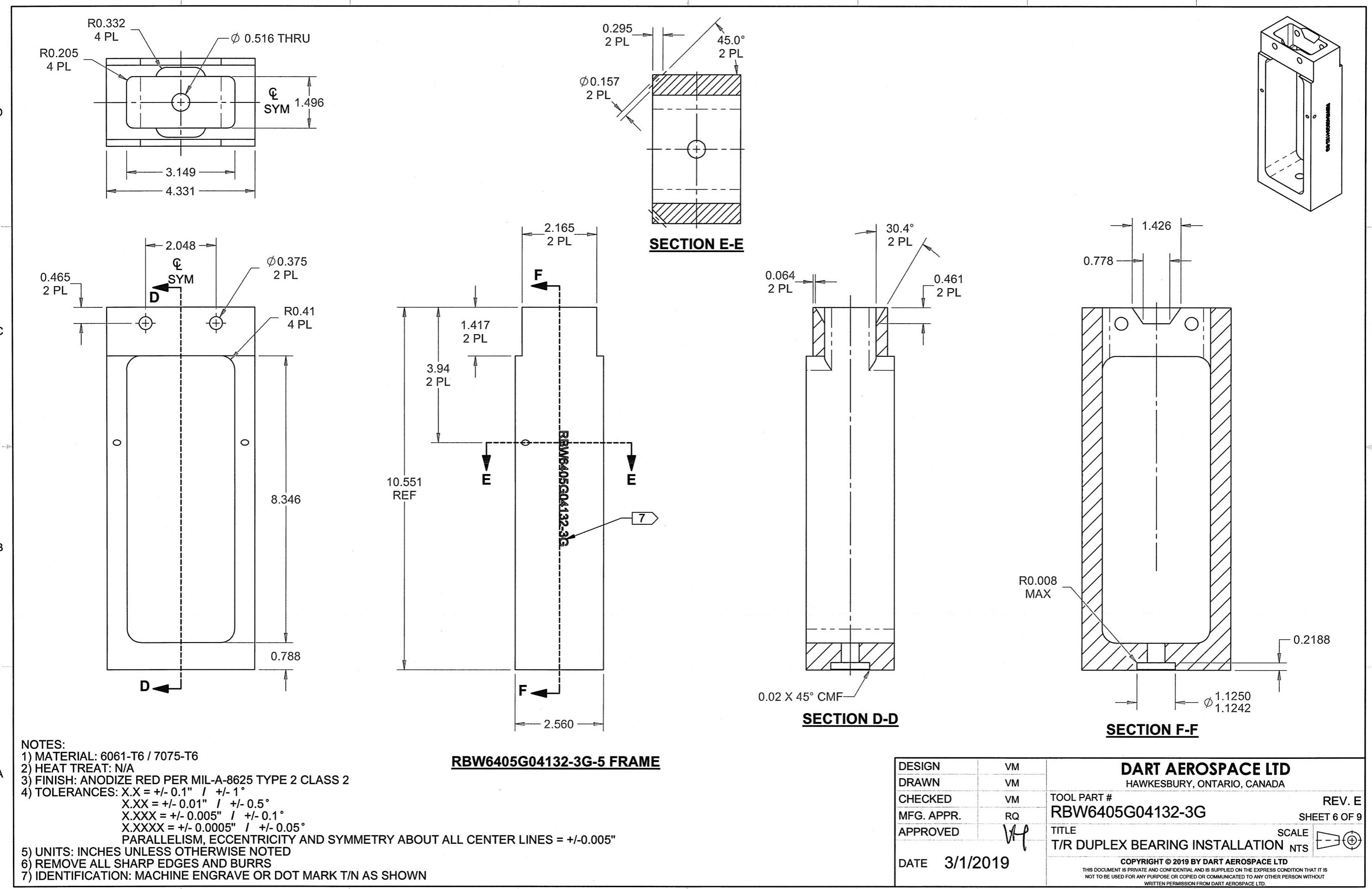


RBW6405G04132-3G-4 FRAME ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) APPLY RETAINING COMPOUND LOCTITE 620 OR EQUIVALENT ON MATING SURFACES  
THEN PRESS FIT ITEM 13 WITH ITEM -5, AND REMOVE EXCESS
- 9) ASSEMBLED LANYARD LENGTH MUST BE 8" +/- 1"





DESIGN DRAWN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	VM	TOOL PART #
MFG. APPR.	RQ	RBW6405G04132-3G
APPROVED	VH	REV. E SHEET 6 OF 9
DATE 3/1/2019		TITLE T/R DUPLEX BEARING INSTALLATION NTS
		SCALE
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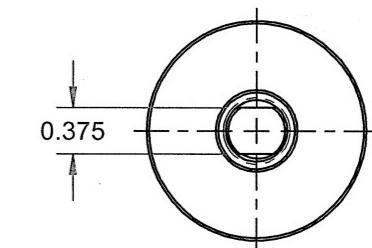
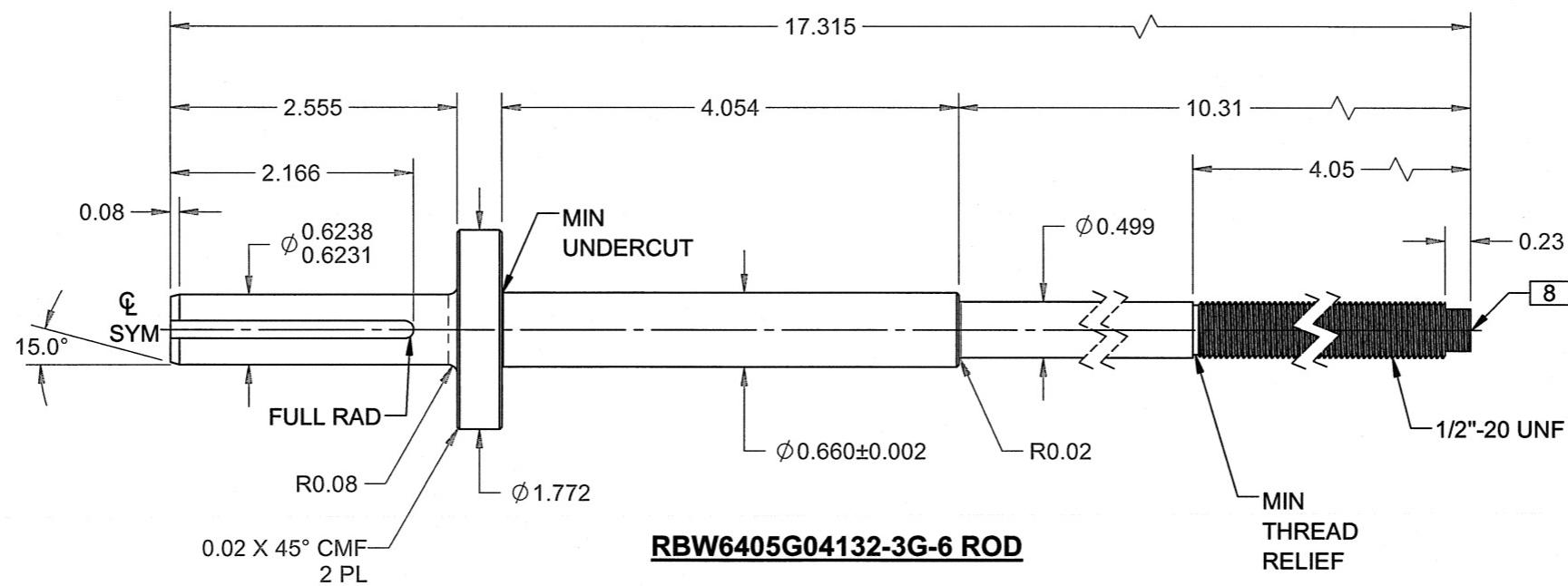
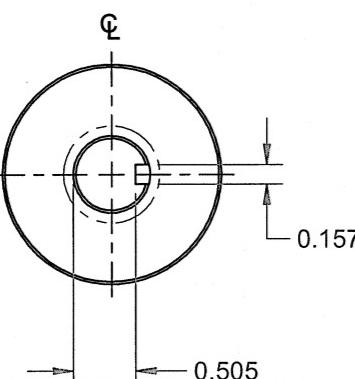
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**NOTES:**

- 1) MATERIAL: 4140 (28-32 RC)
- 2) HEAT TREAT: N/A
- 3) FINISH: BLACK OXIDE PER MIL-C-13924 CLASS 1 THEN APPLY A THIN LAYER OF OIL / CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309 TYPE III OR MIL-C-23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A
- 8) CENTER DRILL IS ACCEPTABLE

DESIGN	VM	<b>DART AEROSPACE LTD</b>	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VM		
MFG. APPR.	RQ		
APPROVED	VM		
DATE 3/1/2019		TOOL PART #	REV. E
		RBW6405G04132-3G	SHEET 7 OF 9
TITLE		T/R DUPLEX BEARING INSTALLATION NTS	
SCALE			
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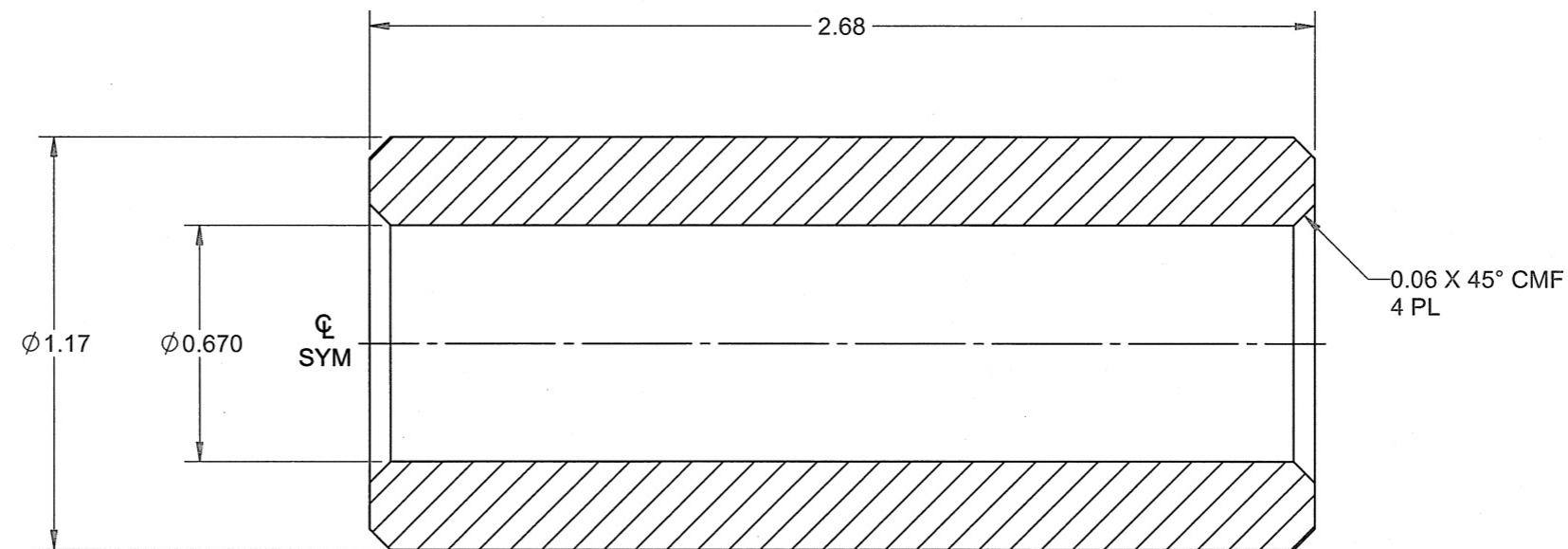
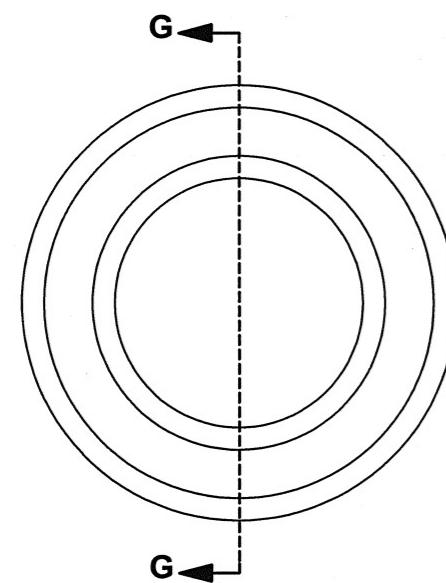
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**SECTION G-G**

**RBW6405G04132-3G-7 SLIDER**

**NOTES:**

- 1) MATERIAL: 4140 (28-32 RC)
- 2) HEAT TREAT: N/A
- 3) FINISH: ZINC PLATE (YELLOW OR BLACK) PER ASTM B633 TYPE 2 CLASS 2
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	VM	<b>DART AEROSPACE LTD</b>			
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA			
CHECKED	VM				
MFG. APPR.	RQ	TOOL PART #			
APPROVED	VIP	RBW6405G04132-3G			
DATE 3/1/2019		REV. E	SHEET 8 OF 9		
TITLE		SCALE NTS			
T/R DUPLEX BEARING INSTALLATION					
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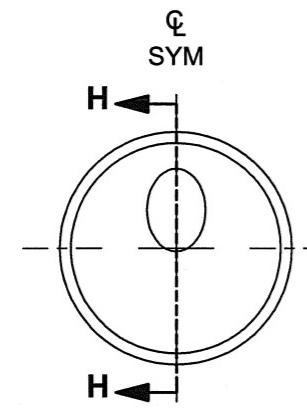
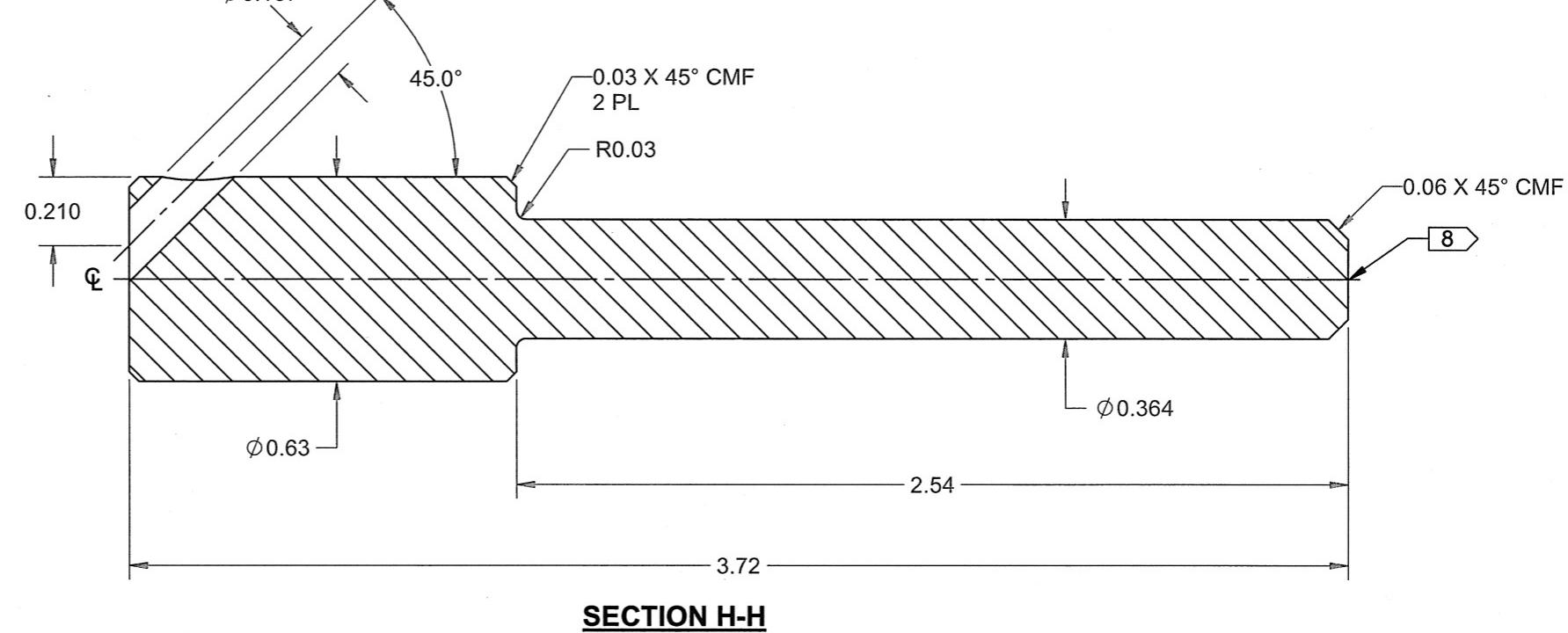
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**RBW6405G04132-3G-8 PIN****NOTES:**

- 1) MATERIAL: 4140 (28-32 RC)
- 2) HEAT TREAT: N/A
- 3) FINISH: ZINC PLATE (YELLOW OR BLACK) PER ASTM B633 TYPE 2 CLASS 2
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°  
X.XX = +/- 0.01" / +/- 0.5°  
X.XXX = +/- 0.005" / +/- 0.1°  
X.XXXX = +/- 0.0005" / +/- 0.05°  
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A
- 8) CENTER DRILL IS ACCEPTABLE

DESIGN	VM	<b>DART AEROSPACE LTD</b>			
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA			
CHECKED	VM				
MFG. APPR.	RQ				
APPROVED	VJ				
TOOL PART #		<b>RBW6405G04132-3G</b>			
REV. E		SHEET 9 OF 9			
TITLE		T/R DUPLEX BEARING INSTALLATION NTS			
SCALE					
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DATE 3/1/2019					

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